Claim Set as Amended

1. (Currently Amended) A filtering control method for improving the image quality of a bi-linear interpolated image ~~in methods for getting~~ when recovering a high resolution image from a low resolution image, comprising:

restoring a requested high resolution image f by finding an added filter coefficient Q of a PSF(P) and a bi-linear interpolation filter B from an equation $f=Pg=PBz=Qz$, ~~herein the~~ wherein f is the high resolution image as requested, P is the PSF (Point Spread Function), g is the high resolution image found by the bi-linear interpolation method, and z is the low resolution image.

2. (Currently Amended) The filtering control method for improving the image quality of the bi-linear interpolated image according to claim 1, wherein the high resolution image f can be restored by performing an added function M(f) definition process for finding the PSF(H) from an equation $g = Bz = Hf+n$, ~~herein the~~ wherein B, H are bi-linear interpolation filters, and ~~the~~ n is a noise component generated by the assumed H.

3. (Currently Amended) The filtering control method for improving the image quality of the bi-linear interpolated image according to claim 2 ~~claim 1~~, wherein the high resolution image f is restored by finding a PSF(P) of a $f=Pg$ function after finding the PSF(H) from the added function M(f).

4. (Currently Amended) The filtering control method for improving the image quality of the bi-linear interpolated image according to claim 2, wherein the added function M(f) is defined as M(f)=$\left\| g - Hf \right\|^2 + \alpha \left\| Cf \right\|^2$, ~~herein the~~ wherein α is a regularization parameter, ~~and~~ C is a two-dimensional high frequency filter for finding mitigation of the original image.

5. (Currently Amended) The filtering control method for improving the image quality of the bi-linear interpolated image according to claim 3, wherein the PSF(H) is found by using an equation $H(k,l) = \dfrac{G(k,l)}{F(k,l)}$, ~~herein the~~ wherein G(k,l) is the component in the k,l frequency region of the bi-linear interpolated image, and ~~the~~ F(k,l) is the component in the k,l frequency region of the high resolution image.

6. (Currently Amended) The filtering control method for improving the image quality of the bi-linear interpolated image according to claim 1, wherein the PSF(P) can be found by getting an IFT (Inverse Fourier Transform) by an equation

$$P(k,l) = \frac{H*(k,l)}{H*(k,l)H(k,l) + C*(k,l)C(k,l)} \cdot$$

7. (Original) The filtering control method for improving the image quality of the bi-linear interpolated image according to claim 4, wherein the regularization parameter α is fixed as '1' in order to reduce a computational complexity.

8. (Currently Amended) The filtering control method for improving the image quality of the bi-linear interpolated image according to claim 1, ~~wherein~~ the number of a kernel of the PSF(P) is set in accordance with an up-sampling value of the image.

9. (Original) The filtering control method for improving image quality of the b-linear interpolated image according to claim 4, wherein a two-dimensional gaussian filter is used as the two-dimensional high frequency filer C in order to determine the mitigation of the original image.

10. (Currently Amended) A filtering control method for improving image

quality of a bi-linear interpolated image in methods for getting a high resolution image from a low resolution image, comprising:

defining an added function M(f) for finding a PSF(H) from an equation g=Bz=Hf+n (wherein B, H are bi-linear filters, N is a noise component generated by an assumed H when the H is a PSF (Point Spread Function), F is a requested high resolution image, z is a low resolution image, and g is a high resolution image gotten by the bi-linear interpolation method);

finding a PSF(P) of a f=Pg function after finding the PSF(H) from the defined added function M(f); and

restoring the requested high resolution image f by finding an added filter coefficient Q of the PSF(P) and interpolation filter B from the equation f=Pg=PBz=Qz.

11. (Currently Amended) The filtering control method for improving the image quality of the bi-linear interpolated image according to claim 10, wherein the added function M(f) is defined as $M(f) = \left\| g - Hf \right\|^2 + \alpha \left\| Cf \right\|^2$, herein the wherein α is a regularization parameter, and C is a two-dimensional high frequency filter for finding the mitigation of the original image.

12. (Currently Amended) The filtering control method for improving the image quality of the bi-linear interpolated image according to claim 10, the PSF(H) is found by an equation $H(k,l) = \dfrac{G(k,l)}{F(k,l)}$, ~~herein the~~ wherein $G(k,l)$ is the component in the k,l frequency region of the bi-linear interpolated image, and ~~the~~ $F(k,l)$ is the component in the k,l frequency region of the high resolution image.

13. (Currently Amended) The filtering control method for improving the image quality of the bi-linear interpolated image according to claim 10, wherein the PSF(P) is found by using an IFT (Inverse Fourier Transform) by an equation

$$P(k,l) = \frac{H*(k,l)}{H*(k,l)H(k,l) + C*(k,l)C(k,l)}.$$

14. (Original) The filtering control method for improving the image quality of the bi-linear interpolated image according to claim 11, wherein the regularization parameter α is fixed as '1' in order to reduce a computational complexity.

15. (Currently Amended) The filtering control method for improving the image control quality of the bi-linear interpolated image according to claim 10, wherein the number of a kernel of the PSF(P) is differently set in accordance with an up-sampling value of the image.

16. (Original) The filtering control method for improving image quality of the bi-linear interpolated image according to claim 11, wherein a two-dimensional gaussian filter is used as the two-dimensional high frequency filter C in order to determine the mitigation of the original image.

17. (Currently Amended) The filtering control method for improving the image quality of the bi-linear interpolated image according to claim 6, wherein the number of a kernal of the PSF(P) is set in accordance with an up-sampling value of the image.

18. (Currently Amended) The filtering control method for improving the image quality of the bi-linear interpolated image according to claim 13, wherein the number of a kernal of the PSF(P) is differently set in accordance with an up-sampling value of the image.